

Remarks

Reconsideration and withdrawal of the objection and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-8 and 10-16 are now pending in the application, with Claims 1, 6 and 10 being independent. Claims 1, 6-8 and 10 have been amended and Claims 13-16 have been added herein.

Support for the feature of the laminating film having a thickness of 2 to 40 μm can be found in the specification at least at page 10, line 7 through page 11, line 2. Support for the feature of the image receiving layer containing inorganic particles can be found in the specification at least at page 13, line 22 through page 14, line 19.

Applicants note with appreciation the indication that Claims 7 and 8 recite allowable subject matter. These claims were objected to for being dependent upon rejected base claims. However, these claims will not be rewritten in independent form at this time because their respective independent claims are believed to be allowable for the reasons discussed below.

Claims 1, 4 and 10-12 were rejected under 35 U.S.C. § 103 as being unpatentable over Japanese Laid-Open Patent Application No. 59-91079 (Togano et al.) in view of U.S. Patent No. 5,521,002 (Sneed). Claims 1-4, 6 and 10-12 were rejected under § 103 in further view of Japanese Laid-Open Patent Application No. 10-44605 (Nakanishi). Claim 5 was rejected under § 103 in further view of U.S. Patent No. 4,864,324 (Shirota et al.). These rejections are respectfully traversed.

As is recited in independent Claim 1, the present invention relates to a process for forming images including the steps of conducting recording on a recording medium provided with an image-receiving layer, the image-receiving layer containing inorganic particles having a diameter of 0.1 to 10 μm for imparting a matted appearance to the surface of the image-receiving layer, laminating a laminating film having a thickness of 2 to 40 μm and comprising only a thermoplastic film without a backing layer onto the image-receiving layer, and plasticizing and smoothing the surface of the thermoplastic film that is opposite to the surface in contact with the image-receiving layer with heating and pressurizing means to bond a back side of the thermoplastic film onto the image-receiving layer.

As is recited in independent Claim 6, the present invention relates to an apparatus for forming images. The apparatus includes an ink-jet head, a laminate section and heating and pressurizing means. The ink-jet head records on a recording medium. The laminate section laminates a laminating film having a thickness of 2 to 40 μm and comprised of only a thermoplastic film without a backing layer onto the recording medium on which recording has been conducted. The heating and pressurizing means plasticizes and smooths the thermoplastic film by heating and pressurizing and bonding a back side of the thermoplastic film onto an image-receiving layer of the recording medium. The surface roughness (R_a) of the surface of said heating and pressurizing means that comes into contact with the thermoplastic film is 3 μm or less.

As is recited in independent Claim 10, the present invention relates to a process for forming images including the steps of conducting recording on a recording

medium provided with an image-receiving layer, laminating a laminating film having a thickness of 2 to 40 μm and comprising only a thermoplastic film onto the image-receiving layer, and plasticizing and smoothing the surface of the laminating film that is opposite to the surface which is in contact with the image-receiving layer with heating and pressurizing means to bond a back side of the thermoplastic film onto the image-receiving layer.

With the above arrangement and methods, glossiness can be imparted to recorded images formed by conducting recording on a recording medium that has fast ink absorbency and good coloring stability. A recording medium that contains particles having a diameter of 0.1 to 10 μm has good ink absorbency and coloring stability. However, the particles can lead the surfaces thereof to become matted. In order to obtain glossy surfaces, after the images are formed on the recording medium, a thermoplastic film having a thickness of 2 to 40 μm can be placed opposing a surface of the recording medium, and then the surface of the thermoplastic film can be smoothed by heating and pressurizing means from the backside. By using a thermoplastic film having a thickness of 2 to 40 μm , the film surface can be smoothed without the unevenness of the recording medium appearing on the surface of the thermoplastic film.

Togano et al. relates to a recorder in which recording paper 2 is recorded by recording heads 12 and then fed to a roller pair 27 where a laminate material 22 is also fed. The paper 2 and laminate material 22 are nipped by the roller pair 27 when their leading ends are aligned and are fed toward a pressure roller pair 28, where they are nipped and heated such that the laminate material is applied onto the surface of the paper by melting in order to protect the recorded image.

However, Applicants submit that Togano et al. does not disclose or suggest that the laminating film has a thickness of 2 to 40 μm , as is recited in independent Claims 1, 6 and 10. Accordingly, there is no suggestion that Togano et al. can prevent the unevenness of the recording medium from appearing on the surface of the laminated film.

Togano et al. fails to disclose or suggest important features of the present invention recited in independent Claims 1, 6 and 10.

Sneed describes a matte type ink jet film using fillers to provide surface texture. The fillers should have a particle size of 0.1 to 25 μm . However, Sneed is not believed to remedy the deficiencies of Togano et al. noted above with respect to the independent claims.

Nakanishi relates to a gloss imparting treatment for thermal recording paper. As discussed previously, when recording a cyan image, in particular, on a thermal recording paper comprising a thermal cyan color developing layer, a thermal magenta color developing layer, a thermal yellow color developing layer and a protective layer laminated on a support in the listed order, the energy required for recording is remarkably large due to the low thermal sensitivity of the thermal cyan color developing layer, so that the thermal head reaches a high temperature. As a result, the outermost protective layer, which comes into contact with the thermal head, is softened and unevenness is caused on the surface due to being scratched by the thermal head. This problem is solved by bringing a surface of the thermal recording paper after recording into contact with a mirror-like surface and conducting heating and pressing treatment. However, Nakanishi is also not believed to

remedy the deficiencies of the citations noted above with respect to independent Claims 1, 6 and 10.

Shirota et al. relates to a color image forming method and its ink and discloses a laminate film composed of a plurality of layers. However, Shirota et al. is also not believed to disclose or suggest those features noted above as lacking in the previous citations.

Thus, independent Claims 1, 6 and 10 are patentable over the citations of record. Reconsideration and withdrawal of the § 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 6 and 10. Dependent Claims 2-5, 7, 8 and 11-16 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


Attorney for Applicants

Registration No. 33,628

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
MAW\mt

DC_MAIN 149887v1